

### Water Stakeholder Committee

## Current Priorities, Future Tests Discussed at May Meeting

The agenda for the AMS Center's water stakeholder committee meeting in Madison, WI, on May 21 ranged from a forum about the U.S. EPA's Environmental Technology Verification (ETV) program to partnering opportunities, updates about water technologies being verified, and plans for future verification tests.

The ETV forum, which was held in conjunction with the National Water Monitoring Conference 2002, featured Theresa Harten, director of the ETV program, who said ETV resulted from the need to increase the rate of acceptance of new and innovative environmental technologies. Ms. Harten said the now-successful ETV program, initiated in 1995, has the potential to expand its role by:

- ◆ Conducting verification tests of technologies that are applicable to homeland security needs, such as technologies for decontaminating buildings or detecting contaminants in the air and water and
- ◆ Broadening ETV's scope to allow longer verification tests to determine a technology's reliability, costs, and operations and maintenance requirements.

She said a recent survey by the Association of State Drinking Water Administrators showed that 35 states are using or plan to use ETV test protocols for testing technologies. These protocols, which now number 60, are also being used worldwide and

several nations have expressed interest in or received training in ETV procedures.

Ms. Harten also envisions that future verification tests could take a systems approach to include life cycle analysis, thus answering questions about a technology's environmental soundness and sustainability.

Several members of the AMS Center's water stakeholder committee identified potential partnering or collaborating organizations and agencies that could, for example, offer grants to defray the costs to vendors participating in a test, co-sponsor the verification test, provide test sites, or supply other in-kind support.

The guest speaker, Dr. William van der Schalie of the U.S. Army Center for Environmental Health Research (USACEHR), discussed biomonitoring

for contaminants in water, a category of interest to members of the AMS Center's water stakeholder committee. Dr. van der Schalie described the USACEHR's mission as combining research, development, testing, and evaluation to protect troops from

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Vito Minei (above photo), director of the Division of Environmental Quality in Suffolk County, NY's Department of Health Services, received the AMS Center's Certificate of Appreciation Award as the most dedicated member of the water stakeholder committee in 2002, from Theresa Harten, director of the ETV program. Below, Dr. William van der Schalie described the U.S. Army's bio-monitoring research.



The AMS Center is part of the U.S. Environmental Protection Agency's Environmental Technology Verification Program. ETV was established to accelerate the development and commercialization of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permittees with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail [lathamh@battelle.org](mailto:lathamh@battelle.org).

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contaminated food and water. Water stakeholder committee member Dr. Tom Gargan, is managing the development of field test kits meeting those specifications.

Research is also being conducted by USACEHR to identify instruments—called biomonitors—for rapid analysis of microbial and chemical contaminants. Dr. van der Schalie has identified 11 vendors with commercially available biomonitors.

During their spring meetings, the AMS Center's air and water stakeholder committees identified the following new technology categories for verification: indoor air monitors; rapid pathogen detectors; on-line phosphate monitors; groundwater velocity monitors; detectors of endocrine disruptors and pharmaceuticals; down-hole, real-time sensors; devices that measure carbon 13 cycling; biomarkers/tissue samplers; and water and soil monitors applicable to homeland security needs.

The AMS Center is planning to conduct a second round of verification tests for vendors of multi-parameter water probes and portable water analyzers for arsenic. Tests are also being planned for pathogen detectors and ion-selective electrode systems that can detect metals (e.g., zinc, lead) as well as nitrate and ammonia. Vendors of these technologies are being contacted to determine their interest in participating in the tests.

To be considered for verification, a technology category must meet the following criteria:

- ◆ Address an important need, as identified by the U.S. EPA or stakeholders
- ◆ Be commercially available
- ◆ Be possible to verify and have potential verification partners available



Two multi-parameter water probes (in saltwater, sample instrument inset, above) are being tested by the AMS Center in collaboration with the NOAA's Center for Coastal Environmental Health and Biomolecular Research in Charleston, SC.

## Test of Water Probes Underway at NOAA

Two companies with multi-parameter water probes—General Oceanics of Miami, FL, and YSI Inc., of Gainesville, FL—are currently participating in a verification test conducted by the Advanced Monitoring Systems (AMS) Center in collaboration with the National Oceanic and Atmospheric Administration's (NOAA) Center for Coastal Environmental Health and Biomolecular Research in Charleston, SC.

Instruments are being deployed in laboratory, freshwater, and salt-water environments near or in Charleston Harbor for a 2-1/2 month field test in which the probes will be operated continuously for periods of up to 30 days. They will also be tested in monitoring turbidity, chlorophyll A, nitrate, conductivity, temperature, dissolved oxygen, and pH.

The objective of the test is to evaluate the performance capabilities of the probes under operating conditions that are realistic in terms of water body, depth, and duration of unattended operations, as well as in a laboratory or controlled setting. During each phase of the test, the instruments will be evaluated on accuracy, precision, linearity, and inter-unit reproducibility.

Other tests underway are:

**Ammonia CEMs.** Several vendors are expected to participate in verification tests of technologies that detect ammonia “slip” emissions. There will be two types of tests, the first at a coal-fired power plant this summer and the second test at a natural gas-fired plant. Contact Ken Cowen, 614-424-5547 or [cowenk-@battelle.org](mailto:cowenk-@battelle.org).

**Mercury CEMs.** Phase 2 of this verification test began in late June at a full-scale hazardous waste incinerator. Five vendors with six instruments are participating in the test, which is to be conducted in collaboration with the U.S. Department of Energy at its TSCA incinerator at Oak Ridge, TN. Contact Tom Kelly, 614-424-3495 or [kellyt-@battelle.org](mailto:kellyt-@battelle.org).

**Portable multi-gas emission analyzers.** This test began this month at the University of California-Riverside's College of Engineering Center for Environmental Research and Technology (CE-CERT). The test will measure the instrument's capabilities to detect NO/NO<sub>2</sub>, SO<sub>2</sub>, CO, and O<sub>2</sub> in combustion emissions. Contact Tom Kelly (see above).

**Homeland security monitors.** The AMS Center is identifying technologies with monitoring capabilities that could support homeland security needs, i.e., air and water technologies that can detect biological and chemical agents such as anthrax, explosives, or cyanide. Interested vendors should contact Tom Kelly (see above).